

3rd Annual EMS Medical Directors' Conference



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Ambulance? Ambulance? We Don't Need No Stinking Ambulance?

Dr. Erik Streib

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#Streib



Ambulance? Ambulance? We don't need no stinking ambulance!

Erik Streib, MD, EMT

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Smith Level 1 Shock Trauma Center

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Disclosures

- Conflicts of interest: none



Objectives

- At the completion of this presentation, the participant will be able to:
- Anticipate the need to quickly transport multiple patients to the trauma center in response to a mass casualty event
- Discuss the importance of time to definitive care versus treatment at the scene
- Prepare for expanding patient transport options to vehicles other than ambulances

Consider...



Are you prepared???





Interventions

What can I do about shock?



Prehospital care?

ORIGINAL ARTICLE

Paramedic vs Private Transportation of Trauma Patients

Effect on Outcome

Demetrios Demetriades, MD, PhD; Linda Chan, PhD; Edward Cornwell, MD; Howard Belzberg, MD; Thomas V. Berne, MD; Juan Asensio, MD; Dennis Chan, MD; Mark Eckstein, MD; Kathy Alo, RN

Background: Prehospital emergency medical services (EMS) play a major role in any trauma system. However, there is very little information regarding the role of prehospital emergency care in trauma. To investigate this issue, we compared the outcome of severely injured patients transported by paramedics (EMS

Patients: All patients meeting the criteria for major trauma.

Results: The two groups were similar with regard to mechanism of injury and the need for surgery or intensive care unit admission. The crude mortality rate was 9.3% in the EMS group and 4.0% in the non-EMS group

Prehospital care?

ORIGINAL ARTICLE

Paramedic vs Private Transportation of Trauma Patients

Conclusions: Patients with severe trauma transported by private means in this setting have better survival than those transported via the EMS system. Large prospective studies are needed to identify the factors responsible for this difference.

(*Arch Surg.* 1996;131:133-138)

injured patients transported by paramedics (EMS) | 9.3% in the EMS group and 4.0% in the non-EMS group

Police vs EMS transport

EMERGENCY MEDICAL SERVICES/ORIGINAL RESEARCH

Severity-Adjusted Mortality in Trauma Patients Transported by Police

Roger A. Band, MD*; Rama A. Salhi, BS, MHS; Daniel N. Holena, MD; Elizabeth Powell, MD; Charles C. Branas, PhD; Brendan G. Carr, MD, MS

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Study objective: Two decades ago, Philadelphia began allowing police transport of patients with penetrating trauma. We conduct a large, multiyear, citywide analysis of this policy. We examine the association between mode of out-of-hospital transport (police department versus emergency medical services [EMS]) and mortality among patients with penetrating trauma in Philadelphia.

Methods: This is a retrospective cohort study of trauma registry data. Patients who sustained any proximal penetrating trauma and presented to any Level I or II trauma center in Philadelphia between January 1, 2003, and December 31, 2007, were included. Analyses were conducted with logistic regression models and were adjusted for injury severity with the Trauma and Injury Severity Score and for case mix with a modified Charlson index.

Results: Four thousand one hundred twenty-two subjects were identified. Overall mortality was 27.4%. In unadjusted analyses, patients transported by police were more likely to die than patients transported by ambulance (29.8% versus 26.5%; OR 1.18; 95% confidence interval [CI] 1.00 to 1.39). In adjusted models, no significant difference was observed in overall mortality between the police department and EMS groups (odds ratio [OR] 0.78; 95% CI 0.61 to 1.01). In subgroup analysis, patients with severe injury (Injury Severity Score >15) (OR 0.73; 95% CI 0.59 to 0.90), patients with gunshot wounds (OR 0.70; 95% CI 0.53 to 0.94), and patients with stab wounds (OR 0.19; 95% CI 0.08 to 0.45) were more likely to survive if transported by police.

Conclusion: We found no significant overall difference in adjusted mortality between patients transported by the police department compared with EMS but found increased adjusted survival among 3 key subgroups of patients transported by police. This practice may augment traditional care. [Ann Emerg Med. 2014;63:608-614.]

Police vs EMS transport

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Police transport vs. ground EMS: A trauma system-level evaluation of prehospital care policies and their effect on clinical outcomes

Michael W. Wandling, MD^{1,2,3}; Avery B. Nathens, MD, PhD^{3,4}; Michael B. Shapiro, MD¹; *and*
Elliott R. Haut, MD, PhD^{5,6}



Philadelphia

- “Police personnel will transport: Persons suffering from a serious penetrating wound, e.g. gunshot, stab wound, and similar injuries of the head, neck, chest, abdomen and groin to the nearest accredited trauma center. Transportation will not be delayed to await the arrival of the Fire Department paramedics.”
- 40 to 50 ambulances in service at any given time
- Philadelphia P.D. has > 6,000 officers

Philadelphia

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Benefits of Police Transport

- Reduce time from injury to arrival at trauma center?
- Improved survival in patients with
 - Severe injuries
 - Gunshot wounds
 - Stab wounds
- Penetrating injuries
 - Most likely to benefit from early surgery
 - Least likely to benefit from out of hospital interventions
- Early removal of patient from scene may reduce tension

Problems with Police Transport?

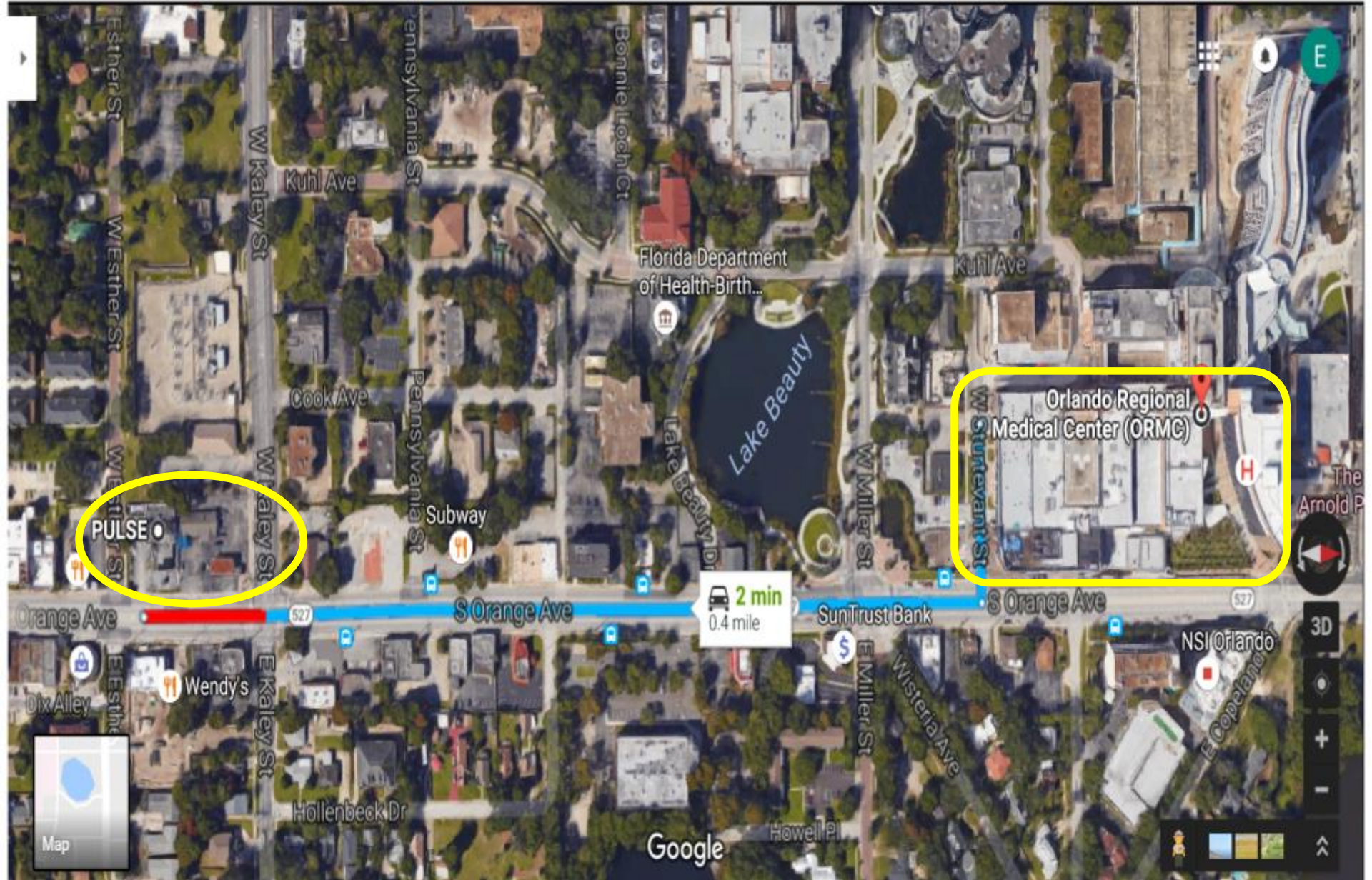
- Patient transport may distract police officer from primary law enforcement responsibilities
- Patient may receive no care at all
- May not be generalizable or applicable to rural areas
- But...
 - Defibrillators? Naloxone?



Dallas – Parkland Memorial

- Of our officers, only one was transported by fire-rescue vehicle after being rescued by armored vehicle.
- The remainder were hastily loaded into police vehicle and transported.
- It's not something we have a formal policy regarding however we do teach "immediate transport" in our Officer Down / Self-Aid Buddy-Aid program.

(personal communication: Alex Eastman, MD)



Orlando







Courtesy Steven Fernandez



Courtesy Steven Fernandez

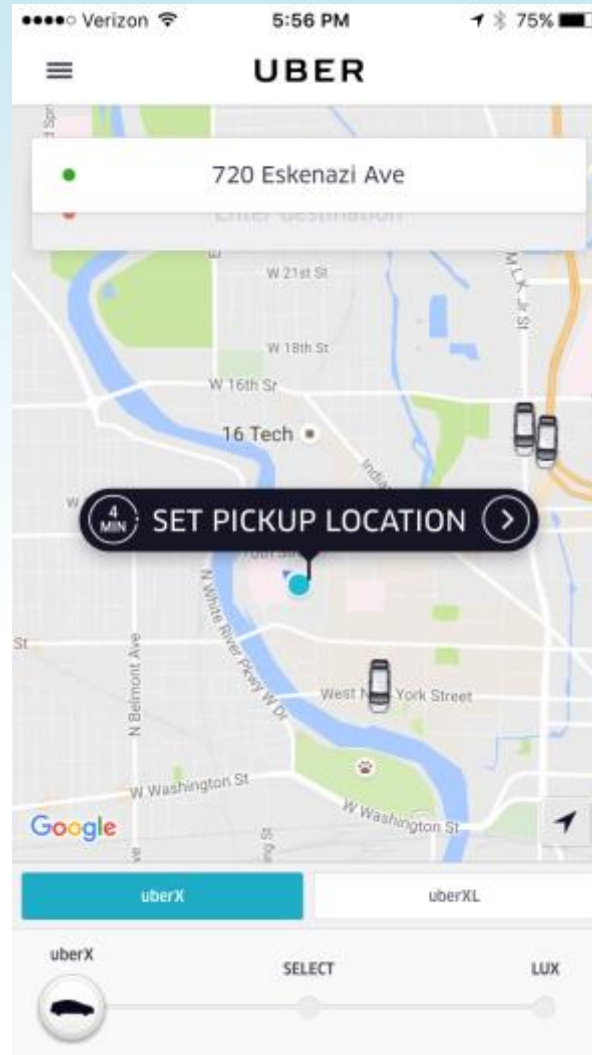




Conclusions

- There is little or no proven benefit to ALS or even BLS prehospital care for patients with serious injuries in urban trauma systems
- Rapid transport of the patient to a trauma center for definitive care may provide more benefit than waiting for an ambulance (scoop and run)
- Conserve ALS resources during mass casualty incidents
- Make EMS systems simpler to access, reduce times, and modify prehospital interventions

UBER? – mobile 911 app?



References

- Demetriades D, Chan L, Cornwell E, et al. Paramedic vs private transportation of trauma patients. Arch Surg. 1996;131:133-138.
- Band RA, Salhi RA, Holena DN, et al. Severity-adjusted mortality in patients transported by police. Ann Emerg Med. 2014;63(5):608-614.
- Wandling MW, Nathens AB, Shapiro MB, et al. Police transport vs. ground ems: a trauma system-level evaluation of prehospital care policies and their effect on clinical outcomes. J Trauma. Publish Ahead of Print. Accessed 8/22/2016.

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NOV. 4, 2016





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Questions?

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